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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 735,131	12 12 2000	David M. Hoffman	15-CT-5233	5524

7590 04 22 2002

John S. Beulick  
Armstrong Teasdale LLP  
One Metropolitan Square, Suite 2600  
St. Louis, MO 63102-2740

EXAMINER

ISRAEL, ANDREW

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 04/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/735,131

Applicant(s)

Hoffman

Examiner

Andrew Israel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Dec 12, 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-23, 26, 29, and 30 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 24, 25, 27, and 28 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some\* c) ☐ None of:

- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 6-10, 15-23, 26, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weedon et al (U.S. Patent # 5,499,281) in view of Iwanczyk et al (U.S. Patent # 4,773,829). Regarding independent claims 1, 21, and 26, and dependent claims 6 and 20, Weedon discloses in column 4, lines 42-55, a detector module assembly and method suitable for use in a computed tomography (CT) imaging system, said detector module comprising: a substrate 58; a photosensor array (or semiconductor detector) 49 mounted on the substrate; an array of scintillators 50 optically coupled to said photosensor array; and a flexible electrical cable 56 electrically coupled to the photosensor array. Weedon does not disclose said photosensor array separated from said scintillators by a gap. Iwanczyk discloses in column 8, lines 59-65, wherein a detector module for CT scanning comprises a scintillator array 22 and photodetector array 24 separated by a gap filled with air. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Weedon such that said photosensor

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array and scintillator array are separated by an air gap in order to provide more efficient optical coupling as disclosed by Iwanczyk.

Regarding claim 2, Weedon discloses in column 4, line 61 through column 5, line 13, a clamping mechanism (or enclosure) 48 which clamps said array of scintillators in place.

Regarding claims 7-10, and 29, Iwanczyk discloses in column 9, lines 23-30, wherein said detector module comprises providing anti-reflection coating 68 to the surfaces of said scintillator and photodetector array.

Regarding claims 3, 15-19, 22, and 23, and further regarding independent claims 21 and 26, Iwanczyk discloses in column 8, lines 59-65, wherein said gap is filled with a compliant, clear film 66 which is an adhesive film (epoxy) and consists of silicone, polyester, or acrylic, or organic gels and acts as a clamping mechanism.

3. Claims 11-14 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weedon et al (U.S. Patent # 5,499,281) in view of Iwanczyk et al (U.S. Patent # 4,773,829) as applied to claims 1, 21, and 26 above, and further in view of Yamashita et al (U.S. Patent # 5,773,829). Regarding claims 11-14 and 30, Weedon in view of Iwanczyk do not disclose polishing said scintillator and photosensor surfaces. Yamashita discloses in column 4, lines 9-35, wherein a detection module comprises scintillator and photodetector surfaces which are polished. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus and method of Weedon in view of Iwanczyk such that said photosensor and

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scintillator surfaces were polished in order to provide more efficient optical coupling as disclosed by Yamashita.

*Allowable Subject Matter*

4. Claims 4, 5, 24, 25, 27, and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter: regarding claims 4, 24, and 27, the prior art does not disclose wherein said clamping mechanism has a thermal coefficient of expansion less than the substrate; regarding claims 5, 25, and 28, the prior art does not disclose wherein said clamping mechanism comprises a silica glass containing titanium oxide.

*Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Vickers et al (U.S. Patent # 5,506,408) discloses in column 8, lines 25-41, an imaging system comprising detectors 270, 272 spaced apart by an air gap 274.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Israel whose telephone number is 703-305-0382. The examiner can normally be reached on Monday-Friday, 8:30 am - 5:30 pm (except mid. Fri.).

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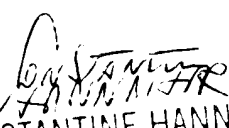
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seungsook Ham can be reached on 703-305-4090. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

AI

AI

April 15, 2002

  
CONSTANTINE HANNAHER  
PRIMARY EXAMINER  
GROUP ART UNIT 2878